Managing a low volume Network during a severe weather event 13 July 2017

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Tararua
Tararua – About the district

- **Location** – Between the Wairarapa and Hawkes Bay Districts and but part of the Manawatu Wanganui Region
- **Population** – 17600
- **Land area** – 4361km²
- **Road Network** consists of 1176km Sealed and 782km unsealed which the majority are low volume roads
- **Fourth largest road Network in New Zealand**
Tararua – About the district

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<th>Problem Statements</th>
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<td>Our roading network is vulnerable to significant environmental events resulting in decreased accessibility and high intervention costs</td>
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<td>Increasing heavy vehicle demand changes due to forestry is resulting in decreasing levels of service and increasing reactive interventions</td>
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<td>Our aging infrastructure has very limited historic data/information is resulting in difficulties in making effective and efficient investment decisions</td>
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<td>Inconsistent road form and an unpredictable road reserve is resulting in a high risk of serious crash to motorists</td>
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<td>Our district has a very large road network but small, aging population making it difficult to afford appropriate levels of service that are consistent with other districts</td>
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Challenges ahead

Over 900km of our network is low volume
Severe Weather - The Event

- **13th July** – A significant amount of snow hit the region, this amount was not forecast.
- **13th & 14th** – 103mm of rain fell in the Southern region of the network, speeding up the snow melt which contributed to rapid flooding.
- From this point it was all hands on deck to keep the network open, operational and safe.

![Graph showing rainfall data](image)

103mm Between the 13th and 14th of July
Response / action plan

- Teams were mobilised - Oringi Alliance staff, Palmerston North construction crews and Local contractors
- Making safe – Road closures, Signage, cones, speed restrictions and fencing
- Open roads - Arterial routes and stranded people.

Route 52 ADT 165
Response / action plan

Common smaller slips to be cleared off the road - The advantage with the 14 ton wheel digger is its manoeuvrability from site to site.
Response / action plan

Water channel blocked by slip debris causing a flow across the road and down the embankment

Saturated embankment washed out
Network Inspections

- Network broken up into 11 Rural Zones and 4 urban Zones for ease of management
- Work teams were split into inspection pairs where we would track the percentage complete of each zone
- We Inspected 100% of all roads within 48hrs
- Cretan Zones are more susceptible to damage, Local knowledge identified the areas which needed first priority
The “War room” set up & we had a live stream of information visible to all.

Each Network fault was mapped out by using information from two main sources:
- Inspectors and alliance staff, through Mobile roads
- CRM’s customer requests

These were then all collated together and mapped out onto one system RAMM.

District map showing 554 faults.
What was found – By the numbers

- 554 initial faults requiring a response
- Over 200 customer requests in 48hrs – this is equivalent to 10% of the district’s annual requests
- $2.173 million worth of repairs where $640k is related to the direct first response (clearing slips and trees)
- 46 sites requiring engineering/geotec assessment and design which 33 are drop outs that need either retaining walls or retreats.
Reflection – Lessons learnt & readiness

- Develop an emergency action procedure plan and flow chart so everyone knows their responsibility and task
- Roster system for continuous support and looking out for fatigue management
- Positioning and availability of plant, have we got the right gear?
- Visible positive protective traffic management warning signs, cones, temporary fencing and edge marker pegs. Inventory of what we have.
- Mapping and management of spoils dump sites within the network & Resource consents
- Training in data collection and what system to use in preparedness for the next event
Summary – Where we want to be

- Out of the 554 initial found faults we have completed 414 of those, although there are ongoing faults being found after subsequent rain events.
- We would like to be through all of the remaining tasks by 30th June 2018, including the majority of retaining walls and retreats.
- Have an improvement in response to any future events AND to keep making advancements.
- Have a resilient road network – future proofing for adverse weather events.
Call in sometime – Coast and Bush

Herbertville Beach
Thank you for your attention. Any questions?